

REMARKS

Re-examination and reconsideration of the application identified in caption, pursuant to and consistent with 37 C.F.R. §1.112, and in light of the remarks which follow are respectfully requested.

As correctly indicated in the Office Action summary, Claims 1-31 are pending. The Office Action Summary further indicates that Claims 1-4, 6-13 and 15-31 are rejected, and Claims 5 and 14 are withdrawn from consideration.

I. THE REJECTION OF CLAIMS 1-4, 6-13 AND 15-31 UNDER 35 U.S.C. §1.102(a)

Claims 1-4, 6-13 and 15-31 stand rejected under 35 U.S.C. §102(a) as being anticipated by WO 99/08653 (hereinafter "*Hüglin*"). Respectfully, Applicants traverse this rejection.

The claimed invention relates to a topically applicable sunscreen/cosmetic composition suited for the photoprotection of human skin and/or hair, comprising an effective SPF-maintaining and water remanence-enhancing amount of (a) at least one benzotriazole first sunscreen compound and (b) at least one bis-resorcinyltriazine second sunscreen compound, formulated into (c) a topically applicable, cosmetically acceptable vehicle, diluent or carrier therefor. (*See, e.g.*, Independent Claim 1.)

The Applicant has discovered, surprisingly and unexpectedly, that a combination of (a) a benzotriazole derivative as first screening agent and (b) a specific bis-resorcinyltriazine derivative as second screening agent makes it possible to obtain antisun

compositions whose water remanence is substantially improved while at the same time retaining a high level of sun protection.

As indicated previously, according to an essential characteristic of the present invention, the two types of sunscreen are present in the final composition in a respective proportion such that a synergistic effect on the water remanence imparted by the resulting combination is obtained.

In contrast to the claimed invention, the document *Hüglin* does not disclose or suggest such composition containing this synergistic combination of UV filters.

According to the relevant standards, "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2USPQ2d 1051, 1053 (Fed. Cir. 1987).

Hüglin teaches the use of bis-resorcinyltriazines as UV filters in cosmetic formulations. On pages 9-12, this document suggests using other UV absorbers selected from thirteen classes of chemical compounds comprising a large number of possible molecules. The Examples do not exemplify the combination of at least one benzotriazole first sunscreen compound and at least one bis-resorcinyltriazine second sunscreen compound either. Instead, Examples 2 and 3 relate to formulations containing a bis-resorcinyltriazine (101 or 102) with octylmethoxycinnamate.

On page 11, *Hüglin* discloses as possible addition UV filter the benzotriazole silicone (16). But *Hüglin* never suggests to combine a bis-resorcinyltriazine to this compound (16) in an effective SPF-maintaining and water remanence enhancing amount.

According to the relevant standards, the "identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Since the prior art reference does not disclose each and every limitation of the claimed invention, Applicants respectfully submit that withdrawal of the rejection under 35 U.S.C. §102(a) would be appropriate.

II. THE REJECTION OF CLAIMS 1-4, 6-13 and 15-31 UNDER 35 U.S.C. §103

Claims 1-4, 6-13, and 15-31 stand rejected under 35 U.S.C. § 103(a) as purportedly unpatentable over U.S. Patent No. 6,030,629 ("*Hansenne*") or U.S. Patent No. 6,171,579 ("*Allard*") in view of European Patent 0 775 698 ("*Hüglin*"). This rejection is respectfully traversed.

Based on a complete understanding of the present invention as claimed, it is respectfully submitted that the claims cannot properly be rejected based on the documents as applied in the Official Action.

1. A *Prima Facie* Case of obviousness Has Not Been Established

Initially, a proper analysis of the obviousness/nonobviousness of the claimed invention by the USPTO requires consideration of two factors: (1) whether the prior art would have suggested to those of ordinary skill in the art that they should practice the claimed invention; and (2) whether the prior art would also have revealed that in so practicing, there would be a reasonable expectation of success. Both the suggestion and the reasonable expectation of success must be founded in the prior art, not in the Applicant's

disclosure. *In re Sernaker*, 217 U.S.P.Q. 1, at 5 (Fed. Cir. 1983); and *In re Vaeck*, 20 USPQ2d 1438, 1442 (CAFC 1991).

The Federal Circuit has repeatedly stated that the motivation and the reasonable expectation of success must come from the prior art, not Applicant's specification. *See In re Dow Chem. Co. v American Cyanamid Co.*, 837 F.2d at 473, 5 U.S.P.Q.2d at 1531-1532 ("[t]here must be a reason or suggestion in the art for selecting the procedure used, other than the knowledge learned from the applicant's disclosure"). Using an Applicant's disclosure as a blueprint to reconstruct the claimed invention from isolated pieces of the prior art contravenes the statutory mandate of §103 of judging obviousness at the point in time when the invention was made. *See Grain Processing Corp. v. American Maize-Prods. Co.*, 840 F.2d 902, 907, 5 U.S.P.Q.2d 1788, 1792 (Fed. Cir. 1988).

In response to Applicant's arguments, the Examiner is of the "opinion that, absent a showing to the contrary, it would have been obvious to one having ordinary skill in the art at the time the claimed invention was made to use bis-resorciny l triazine of *Hüglin* for cosmetic sunscreen compositions of either *Hansenne* or *Allard* for its art-recognized purpose and with a reasonable expectation of deriving the same cosmetic effect as set forth in the art." *See Official Action, Page 3*. In addition to the arguments against *prima facie* obviousness presented in the Reply, Applicant maintains that one of skill in the art would *not* have had a reasonable expectation of success in arriving at Applicant's invention due to, at least, the vast structural and physical differences among the purportedly interchangeable components.

Respectfully, the Office Action does not present a legally sufficient *prima facie* case of obviousness because the cited references do not fairly suggest that a topically applicable sunscreen/cosmetic composition suited for the photoprotection of human skin and/or hair, having effective SPF and enhanced water remanence could be obtained.

Hansenne employs at least one silicone benzotriazole derivative (such as MEXORYL XL) and 2-phenylbenzimidazole-5-sulfonic acid (sold as EUSOLEX 232). *Allard* employs at least one silicone benzotriazole derivative (such as MEXORYL XL) and a 1,3,5-triazine derivative (such as UVINUL T150 or UVASORB HEB). *Hüglin* employs bis-resorcinyll triazine compounds (such as TINOSORB S).

MEXORYL XL, EUSOLEX 232, UVINUL T150, UVASORB HEB, and TINOSORB S are structurally different and possess different chemical properties. EUSOLEX 232 is a benzimidazole derivative, is water-soluble, and absorbs UV-B wavelengths; UVINUL T150 and UVASORB HEB are 1,3,5-triazine derivatives and similarly only absorb UV-B wavelengths. Contrarily, TINOSORB S is a bis-resorcinyll triazine which is oil-soluble and absorbs both UV-A and UV-B wavelengths. All of these compounds have different UV absorption spectra, as shown in the attached color graph. Accordingly, one of skill in the art could not reasonably predict how, if at all, variations in the combinations employed by *Hansenne*, *Allard*, and/or *Hüglin* would affect the properties of the resulting composition — this is especially true in light of the fact that *Hansenne* and *Allard* stress that their particular combinations resulted in synergistic, unexpected efficacy.

Due to these compounds' differing structural and chemical properties, one of skill in the art would not have reasonably expected that the Examiner's proposed substitution

would succeed. Accordingly, Applicant maintains that a *prima facie* case of obviousness has not been made out.

2. Even If A *Prima Facie* Case of Obviousness Was Found To Exist,
Applicant's Unexpected Results Rebut Such a Showing

Applicant continues to stress that a *prima facie* case of obviousness has not been made out. However, should it be determined that such a case has been made, Applicant submits that the following showing of unexpected results negates the alleged obviousness. *See M.P.E.P.* § 716. Should the Examiner prefer the following information in the form of a Declaration by Mr. Candau, such a Declaration will gladly be provided.

A. Procedures

Didier Candau, the named inventor, performed tests which compared the *in vitro* water-resistant SPF and UV-A SPF efficacy of compositions according to *Hansenne* (Composition C) and *Allard* (Compositions D and E) with compositions according to the invention (Compositions A and B), using the same support as disclosed in Example 2 of the instant application. Components and SPFs are expressed in %s.

UV A Absorption Test

Quartz plates with tape Transpore® were used as the spreading support. Approximately 30 mg of composition was deposited manually, resulting in an application of 1.4 mg/cm². Using an Optétrics Spectroradiometer SPF -290, monochromatic readings of the protection factors were taken every 5 nm between 290 nm and 400 nm. The spectrum of light source was the Sun of Diffey method. The UV-A Absorption efficacy, or

protection index ("PI" in following table), is expressed mathematically by the ratio of the dose of UV-A radiation necessary to reach the pigmentation threshold with the UV screening agent ("MPPD_p") to the dose of UV-A radiation necessary to reach the pigmentation threshold with UV screening agent ("MPPD_{np}"):

$$PI = MPPD_p \div MPPD_{np}$$

SPF Resistance Test

Slide frames with tape Transpore® were used as the spreading support. Approximately 30 mg of composition was deposited manually, resulting in an application of about .75 mg/cm². The samples were immersed and stirred in a water bath at 30°C for 10 minutes, and then dried by fan. The SPF of the samples was measured before and after immersion using an Optétrics Spectroradiometer SPF -290, monochromatic readings of the protection factors being taken every 5 nm between 290 nm and 400 nm. The spectrum of light source was the Sun of Diffey method. The SPF water resistance was measured according to the following formula:

$$SPF = ((\text{average SPF after immersion} - 1) \times 100) \div (\text{average SPF before immersion} - 1)$$

B. Results

The following data were obtained:

Comp.	MEXORYL	TINOSORB S	EUSOLEX 232	UVINUL T150	PI	SPF
A	2	4			6.1 ± 1.1	38
B	2	2			5.1 ± 0.2	38
C	2		4		3.6 ± 0.3	1
D	2			4	2.7 ± 0.2	53
E	2			2	2.7 ± 0.4	58

From the foregoing, one sees that, unexpectedly, the substitution of EUSOLEX 232 of *Hansenne* with TINOSORB S results in an effective composition, one having an increase from 3.6 ± 0.3 to 6.1 ± 1.1 in UV A absorbance and an increase from 1 to 38% SPF water resistance. *See Composition C versus Composition A.* Also unexpectedly, the substitution of UVINUL T150 of *Allard* with TINOSORB S results in an effective composition, one having an increase from 2.7 ± 0.2 to 6.1 ± 1.1 in UV A absorbance; yet a decrease in SPF water resistance from 53% to 38%. *See Composition D versus Composition A.* Similarly unexpectedly is the substitution of UNIVUL T150 of *Allard* with TINOSORB S resulting in an effective composition, one having an increase from 2.7 ± 0.4 to 5.1 ± 0.2 UV A absorbance and a decrease from 58% to 38% in SPF water resistance. *See Composition E versus Composition B.*

In summary, Applicant's invention exhibits an unexpected and superior combination of UV A absorption and SPF water resistance. Based on the foregoing, Applicant submits

that the unexpected and superior results overcome any showing of *prima facie* obviousness that may have been made out.

CONCLUSION

From the foregoing, further and favorable action in the form of a Notice of Allowance is believed to be next in order, and such action is earnestly solicited.

If there are any questions concerning this paper or the application in general, the Examiner is invited to telephone the undersigned.

Respectfully submitted,

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Limited Recognition Under 37 C.F.R. §10.9(b)
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Date: November 7, 2003

